

## High School Department

156TH EXAMINATION

## ARITHMETIC

Tuesday, September 27, 1898—9.15 a. m. to 12.15 p. m., only

Answer the first five questions and five of the others but no more. If more than five of the others are answered only the first five answers will be considered. Give all operations (except mental ones) necessary to find results. Reduce each result to its simplest form and mark it Ans. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

- 1 Define integer, quotient, prime factor, ratio, interest.
- 2 Write in arabic notation MDCCCLXIV, CM, DV. Write in roman notation 999, 1776.
- 3 Simplify  $\frac{2\frac{2}{3} + 1.7 \div 2\frac{4}{5}}{\frac{2}{3} \times \frac{2}{5}}$
- 4 Find in liters the capacity of a rectangular tank  $2\frac{1}{2}$  meters long,  $6\frac{1}{2}$  decimeters wide and 35 centimeters deep.
- 5 Find the interest on \$465 at 5% from May 1, 1898 to the present date.
- 6 Express  $\frac{1}{5}$  and  $\frac{1}{3}$  as decimal fractions; add these decimals and express their sum as an improper fraction.
- 7 Find the greatest common divisor of 3082, 1518 and 1840.
- 8 A grocer buys 20 bushels of potatoes at 75 cents a bushel and sells them at 30 cents a peck; find his entire gain and his gain per cent.
- 9 A dealer buys 6 cords of wood at \$4 a cord and 8 tons of coal at \$4.50 a ton; he sells the wood at 80 cents a cord foot and the coal at 30 cents a hundredweight. Find his entire gain.
- 10 Find the cost of papering the walls and ceiling of a room 18 feet by 14 feet, and 10 feet high, with paper, each roll of which is 2 feet wide and 6 yards long, at 50 cents a roll, allowing 64 square feet for openings.
- 11 Find in gallons the capacity of a cylindrical vessel 2 feet in diameter and 4 feet deep.
- 12 Bought U. S. 4% bonds at 115 $\frac{1}{2}$  (brokerage  $\frac{1}{8}$ %) to the amount of \$5000 face value; find the annual income and the rate of interest on the investment.
- 13 A three months note for \$650, due October 1, was discounted at a bank August 14 at 6%; find the proceeds.
- 14 Find the square root of 19 correct to three decimal places.
- 15 A bicyclist traveling 8 hours a day goes 576 miles in 6 days; find how far he can go in 10 days if he travels 6 hours a day at the same rate per hour. [Solve by proportion.]